



## Department of Toxic Substances Control



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California Environmental  
Protection Agency

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1011 N. Grandview Avenue  
Glendale, California 91201

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Governor

January 3, 2000

Ms. Edith Ardiente, P.E.  
Director - Environmental Affairs  
Navistar International Transportation Corporation  
455 North Cityfront Plaza Drive  
Chicago, Illinois 60611

CONSULTATIVE WORK GROUP CONDITIONAL APPROVAL OF THE RFI REPORT  
(PHASE III), AQUATIC INVESTIGATION AND STATEMENT OF SUITABILITY, SOLAR  
TURBINES, INC., HARBOR DRIVE FACILITY, SAN DIEGO, CALIFORNIA, EPA ID  
NUMBER CAD 008 314 908

Dear Ms. Ardiente:

The Department of Toxic Substances Control (DTSC) has worked with representatives of Solar Turbines, Inc. and Navistar Corporation on the Corrective Action process for the Solar Turbines facility through a Fee For Service Agreement (No. 95-T1035) with amendments A-1 and A-2 since June 30, 1995. Additionally, DTSC under Assembly Bill (AB) 2061 is the lead agency of the Consultative Workgroup (CWG) which is composed of regulatory agencies and local entities to ensure streamlining of the corrective action process.

The RFI Report delineates the investigation of the groundwater, bay sediment pore water, and bay water and is useful for human and ecological risk determination. Elevated levels of volatile organic compounds and metals were detected in these media. The area of the investigation is located off-site of the Solar Turbines facility and extends to the San Diego Bay. The RFI Report adequately characterizes the contamination for purposes of developing a health risk assessment.

This letter includes by way of attachment the comments of the CWG and a Statement of Suitability to be included as a permanent addition to the final Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Phase III Aquatic Investigation Report (Aquatic Report) dated July 30, 1999. DTSC, in concurrence with the CWG approves the Aquatic Report with the following caveats:

Approval by the CWG does not include concurrence with any statements contained in

Ms. Edith Ardiente  
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the Aquatic Report that imply:

- Any site-related discharge to San Diego Bay can be disproved based on this investigation, and
- The volatile organic compound data collected from sediment pore water samples are valid due to sample integrity and quality control/quality assurance issues.

Therefore, the CWG conditionally approves the Aquatic Report. In an effort to expedite the corrective action process, the CWG approves the Aquatic Report with the caveat that the attached Statement of Suitability signed by all members of the CWG, accompany the Aquatic Report as a permanent component. Conditional approval of the Aquatic Report will facilitate the initiation of the following subsequent phases of the Corrective Action process: completion of the Chemicals-of-Potential-Concern Technical Memorandum and the Baseline Health Risk Assessment. The anticipated completion for these two tasks is March, 2000.

If you have any questions regarding this letter, please contact Mr. Richard Allen at (818) 551-2924.

Sincerely,

  
Yolanda M. Garza  
Unit Chief  
Southern California Permitting Branch

Enclosures

cc: Ms. Nadine J. Spertus, P.E.  
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Ms. Lisa Kellogg, R:G.  
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cc.: Dr. Charles Cheng, PhD, R.G.  
Associate Engineering Geologist  
California Regional Water Quality Control Board - San Diego Region  
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Mr. Bill Paznokas  
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Mr. Theodore Johnson, C.Hg., C.E.G.  
Hazardous Substances Engineering Geologist  
Department of Toxic Substances Control  
5796 Corporate Drive  
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Dr. Michael Schum  
Staff Toxicologist  
Human and Ecological Risk Division  
Department of Toxic Substances Control  
400 P Street, 4th Floor - H210  
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Mr. Kevin Wong  
United States Environmental Protection Agency  
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Mr. Robert Sams  
Office of Legal Counsel  
Department of Toxic Substances Control  
1011 North Grandview Avenue  
Glendale, California 91201

## STATEMENT OF SUITABILITY

The Consultative Workgroup (CWG) request that this Statement of Suitability be included as a permanent part of the Phase III RFI Aquatic Investigation Report thereby conditionally approving the Report with the following statement to further the corrective action process.

It is the belief of the CWG that the purpose of the Phase III RFI Aquatic Investigation was to collect data for a Baseline Risk Assessment only and not to determine if there is a discharge to the San Diego Bay.

The CWG reviewed the RCRA Facility Investigation Phase III Aquatic Investigation Work Plan (Aquatic Work Plan) dated May 27, 1998, prior to the commencement of this investigation. Although the Work Plan was approved and the investigation did proceed, the CWG was under the impression that all sample collection, handling, and analytical activities would be completed in a manner so as not to compromise the integrity of the samples and thereby yield questionable results.

The CWG reviewed the draft RCRA Facility Investigation Phase III Aquatic Report (Aquatic Report) dated September 16, 1998 and the final Aquatic Report dated July 30, 1999. Comments were submitted by the Department of Toxic Substances Control (DTSC) requesting revisions which were compiled in a letter to Navistar International Transportation Corporation dated January 11, 1999. For the reasons stated below, the final revision of the Aquatic Work Plan dated May 27, 1998 did not respond sufficiently to support all the conclusions in the Aquatic Report as stated in Response to Comments in Appendix M.

Of primary concern to the CWG is the lack of data of sufficient quality to be used for risk assessment purposes. Some statements and conclusions regarding volatile organic compounds are not supported by data and the intent of this investigation.

The purpose of the aquatic investigation was to determine human and ecological risk and not to prove or disprove a discharge to San Diego Bay. Data for metals concentrations and their effect on the benthic community is satisfactory for use in the Risk Assessment. The Aquatic Report does not address the discharge of site-related chemicals of potential concern pursuant to the Porter-Cologne Act.

The volatile organic compound data collected in the course of this investigation lacked sufficient quality to be used in the baseline risk assessment.

In conclusion, the CWG does not concur with any statements contained in the Aquatic Report that imply 1) that any site-related discharge to San Diego Bay can be disproved based on this investigation, and 2) that the volatile organic compound data collected from sediment pore water samples are valid in light of sample integrity and quality assurance/quality control issues. The intent of the Aquatic Report is still valid to

develop the Baseline Risk Assessment. Therefore, the CWG conditionally approves the Aquatic Report based on the above statements and in an effort to expedite the corrective action process.



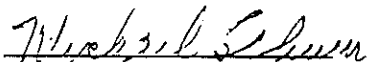
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Department of Toxic Substances  
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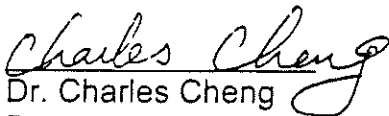
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Human and Ecological Risk Division  
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# Department of Toxic Substances Control



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## MEMORANDUM

**TO:** Richard Allen  
Southern California Permitting Branch  
1101 N. Grand Avenue  
Glendale, CA 91201

**FROM:** Michael Schum, Ph.D. *Michael Schum*  
Staff Toxicologists  
Human and Ecological Risk Division (HERD)

**DATE:** September 28, 1999

**SUBJECT:** Solar Turbines, Harbor Drive Facility  
Review of Revised Phase III Aquatic Investigation  
PCA: 24120 Site: 400253-50 MPC: 38

### Background

Per your technical services request, the Human and Ecological Risk Division (HERD) has reviewed the final report summarizing the results of the aquatic investigations in San Diego Bay adjacent to the Solar Turbines facility on Harbor Drive. These investigations were conducted to address specific concerns noted by the Consultative Work Group (CWG) for assessing risks to human and ecological receptors from contaminated groundwater associated with operations at the Solar facility. These investigations were conducted in accordance with a DTSC-approved work plan. The issues raised below summarize the comments HERD provided in a memo dated 10/15/98. This revision incorporates recommendations made by all members of the CWG based on the memo from DTSC to Solar dated 1/11/99 and on subsequent discussions.

### Document Reviewed

"Phase III RCRA Facility Investigation (RFI) Aquatic Investigation," prepared for Navistar International Transportation Corporation by ARCADIS Geraghty & Miller, dated 7/30/99. [This is a revision of a document with the same title dated 9/16/98].

### Scope of Review

The document was reviewed for scientific content. Minor grammatical or typographical errors that do not affect the interpretation have not been noted. We assume that sampling of environmental media, analytical chemistry data, quality assurance procedures, and statistical analysis of sampling

results have been examined by regional personnel. If inadequacies in this regard for the purposes of risk assessment were encountered, they are noted. Any future changes or additions to the document should be clearly identified, preferably with a redline / strikeout version, in addition to the revised document.

## Comments

This report summarizes the results of a comprehensive analysis of surface water and sediment pore water chemistry for volatile organic chemicals (VOCs) and metals in the near shore, shallow sediment environment adjacent to the Solar facility. This study was designed to determine if there has been an identifiable release of groundwater known to be contaminated from facility operations at Solar, for the purposes of evaluating human and ecological risks in a baseline risk assessment (BRA).

ARCADIS Geraghty & Miller (G&M) are to be commended for the thorough statistical analyses suite presented in Appendix K. All relevant and necessary statistical tests including tests for normality and equality of variances, pooled and within group Analysis of Variance (ANOVA), and an extensive suite of post hoc multiple comparison tests are included. This level of detail greatly simplifies our reviews and should be included in all of these types of documents submitted to DTSC for review and approval. There is still one minor error in the statistical approach that needs to be revised or amended. Specifically, the within group comparisons (station by station and reference, and transect by transect and reference) include field duplicate samples as an independent data point in the ANOVA and post hoc comparisons. This biases the calculation of means and variances by giving a co-located sample extra weight. Technically, the average of the two duplicates should be used as a single data point. We recommend that a separate appendix be provided for the station by station and transect by transect comparisons using the average of the two duplicates for the metals in pore water comparisons. It is unlikely that applying this correction to the comparison with the pooled data would change the results due to the large variance component with pooled data that we noted previously.

The majority of the statistical results we reviewed on 10/15/98 were in error because data was incorrectly coded for the computer statistical package, as noted in the response to comments from G&M. We are discouraged at having spent as much time as we did in that review only to have to repeat the task now with a resulting delay in the project tasks.

We have not agreed to any "risk-based threshold limit values" (Appendix L) for the ecological risk assessment. We have commented on this before. Even though G&M have not recommended that any specific chemicals would be deleted from the BRA by this criteria, we feel it is inappropriate to use these values in the decision matrix for the selection of contaminants of concern. Depending on the results of the BRA, we will evaluate the derivation of these values if and when they are proposed as remedial action values.

## Summary

Subject to the submission of the recommended supplemental statistical analyses, and with a clear understanding that we are not approving any proposed "risk-based threshold limit values" at this time, the revised document has adequately addressed HERD's comments from our memo dated 10/15/98.

The comments we have supplied are meant to be constructive, and we hope they are useful. If you have any questions, please call me at (916) 327-2498 or the Human and Ecological Risk Division at 327-2500.

Reviewer: Deborah Oudiz, Ph.D.  
Senior Toxicologist, HERD  
Southern California Liaison







# California Regional Water Quality Control Board

## San Diego Region

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**TO:** Mr. Richard Allen  
Department of Toxic Substances Control  
1011 N. Grandview Avenue  
Glendale, California 91201-2205

**FROM:** Charles Cheng  
Associate Engineering Geologist  
**SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD**

**DATE:** November 17, 1999

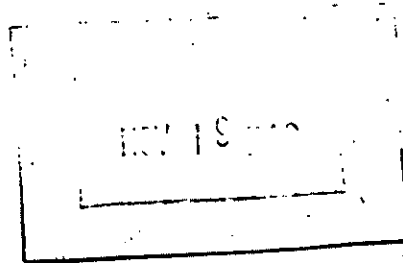
**SUBJECT: PHASE III RCRA FACILITY INVESTIGATION (RFI) AQUATIC INVESTIGATION, SOLAR TURBINE INCORPORATED, HARBOR DRIVE FACILITY, SAN DIEGO, CALIFORNIA, DATED 30 JULY, 1999**

On August 3, 1999, the San Diego Regional Water Quality Control Board (RWQCB) received the above referenced document (the report), prepared by ARCADIS Geraghty & Miller, Inc. (the consultants) for Navistar-International Transportation Corp. (the responsible party, RP). The purpose of this report was to document the results of an aquatic investigation in the San Diego Bay adjacent to the Solar Turbine Incorporated Harbor Drive Facility, located at 2200 Pacific Highway, San Diego, California (the site). This memo transmits the following review comments from RWQCB staff.

1. Staff does not concur with the report that there is no discharge of facility-related constituents into the Bay. As has been extensively discussed in our December 17, 1997 and October 15, 1998 letters, the shallow sampling depth from this investigation is inappropriate to determine groundwater discharge to the Bay. Pore water chemical data from such shallow depth are non-representative of water quality at point of entry where no dilution and mixing should take place. The current work does not support the above conclusion.

**California Environmental Protection Agency**

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2. Staff does not concur with the report that VOC data from pore water are valid for risk assessment. The primary flaw in the data set is the exceedance of 14-day holding time for VOC analysis as required by USEPA SW846 methodologies. In addition, evidence of unsecured seals exists. There is a great concern regarding potential VOC losses during sample transportation and handling, and the quality controls are not appropriate for monitoring such losses. All relevant comments in our October 15, 1998 letter regarding VOC data still stand. Staff suggests that VOC data from pore water not be used in the report.
3. The following comment in our October 15, 1998 letter still applies:

*"The report characterizes and evaluates contamination with respect to ecological and human receptors at points of contact. In our letters to DTSC dated February 27 and December 17, 1997, the RWQCB articulated its position with regards to a risk assessment approach and cleanup standards for soil and groundwater remediation at the site. This agency fully expects the responsible party to acknowledge San Diego Bay as a receptor, and perform a risk assessment of the Bay using applicable or relevant and appropriate water quality criteria at points of entry, or at compliance points as deemed appropriate by the Consultative Work Group."*

If you have any questions regarding this memo, please contact me at (858) 627-3930.



# Department of Toxic Substances Control



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Environmental  
Protection

## MEMORANDUM

TO: Yolanda Garza  
Unit Chief  
Southern California Permitting Branch

FROM: Theodore R. Johnson III, C.Hg., C.E.G. *TRJ*  
Southern California Permitting Branch  
Geological Services Unit

DATE: November 23, 1999

SUBJECT: PHASE III RCRA FACILITY INVESTIGATION (RFI) AQUATIC  
INVESTIGATION, SOLAR TURBINES INCORPORATED, HARBOR DRIVE  
FACILITY, SAN DIEGO CALIFORNIA (EPA ID No. 008314908)

PCA: 24120 Site Code: 400253 WP: 50 MPC: 38

As requested, the Geological Services Unit (GSU) of the Department of Toxic Substances Control (DTSC), reviewed the document entitled *Phase III RCRA Facility Investigation (RFI) Aquatic Investigation (Report), Solar Turbines Incorporated, Harbor Drive Facility, San Diego, California (Site)*, dated July 30, 1999. The document was prepared by ARCADIS Geraghty & Miller, Inc. for Navistar International Transportation Corp.

The primary focus of the RFI Report was to record the results of the aquatic investigation in the San Diego Bay (Bay) adjacent to Solar Turbines, for assessing risk to human and ecological receptors from contaminated groundwater associated with operations at the Site. The following comments were raised during GSU's review of the subject document:

### GENERAL COMMENTS

1. The Report states the second sampling task objective is to "determine whether there is a discharge above ambient (reference) levels of facility related constituents in groundwater underlying the Solar facility into the Bay." Since the focus of the aquatic investigation was in the area of the sample grid and limited to investigating shallow depths below the Bay floor (6 to 8 inches), the Report should not arrive at conclusions outside the area or scope of the investigation.

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As stated in GSU's memorandum dated March 1, 1999, the shoreline groundwater monitoring wells along Harbor Drive show elevated concentrations of VOCs. Barring an extreme downward vertical gradient at the seawall, the normal horizontal groundwater flow direction and gradient is towards the Bay; therefore, contaminated groundwater moving from the shoreline monitoring wells should follow predominately horizontal flowpaths and discharge into the Bay through the riprap section adjacent to the seawall. Since the riprap area was not the focus of this investigation and potentially is the preferred pathway for contaminant migration, the Report should not conclude contaminants from Solar are not discharging to the Bay.

GSU recommends the areas of groundwater discharge to the Bay be investigated as the main contaminant pathway from Solar into the Bay.

2. GSU cannot consider the VOC analytical results valid for the following reasons: 1) The sample holding times exceeded the holding times recommended in the U.S. Environmental Protection Agency (US EPA) method used for analysis of VOCs; 2) Proper quality control/quality assurance procedures were not followed during the sampling of VOCs; for example, some sample containers lids were loose upon arrival to the laboratory; and 3) Headspace was present in some of the sample containers, and sample containers were mislabeled. GSU recommends the VOC analytical results not be used as input for the Baseline Risk Assessment.

If you have any questions or require clarification, please contact me at  
(714) 484-5414.

Peer review by: Frank Gonzales, C.Hg. *for TRJ*

cc: Richard Allen  
File